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10/720,084

11/25/2003

Nobuaki Watanabe

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06/24/2008

WENDEROTH, LIND & PONACK, L.L.P.

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WASHINGTON, DC 20006-1021

EXAMINER

LE, TUAN H

ART UNIT

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2622

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/720,084 | Applicant(s) WATANABE, NOBUAKI | |
| | Examiner TUAN H. LE | Art Unit 2622 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/10/08 has been entered.

Response to Arguments

Applicant's arguments with respect to claims 1, 3-13 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 6, and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Ikeda (JP2001-183718 to Ikeda Noribumi).

Regarding **claim 1**, Ikeda discloses a blade driving device for use in cameras, the blade driving device comprising:

a mechanical blade openably and closably disposed in front of an image pickup element, the mechanical blade being operable to block a part or all of light passing

through an exposure aperture or to reduce light passing therethrough (Ikeda, Abstract, wherein shutter blade for a digital camera is provided with a plurality of shutter blades constituted so as to be moved back and forth between two positions being the position the position where an aperture part for exposure is closed and the position where it is opened);

an electromagnetic actuator (actuator) being operable to enable the blade to perform an opening motion according to opening energization and to enable the blade to perform a closing motion according to closing energization (Ikeda, Claim 1, Claim 2, and paragraph [0005], wherein an actuator functions to keep shutter blades in closed and opened states); and

a control means (control section which controls an actuator, Ikeda, paragraph [0004]) for drive-controlling the electromagnetic actuator and applying opening energization and closing energization to the electromagnetic actuator so as to allow the blade to perform an opening motion by turning on an electric power supply to move into an opened state in a photographable standby state in which a dynamic image and a still image can be photographed, and to perform an opening motion when a releasing operation is performed, and then to perform a closing motion for completion of a photograph (Ikeda, Abstract and paragraph [0004], wherein in a photographing standby state, when shutter blades move from the opened position to closed position because of vibration or impact, the shutter blades are always returned to the opened position).

Regarding **claim 3**, Ikeda discloses the blade is a shutter blade that opens and closes the aperture (Ikeda, Abstract, wherein shutter blades move back and forth).

Regarding **claim 6**, Ikeda discloses a blade driving device for use in cameras, the blade driving device comprising:

a mechanical blade openably and closably disposed in front of an image pickup element, the mechanical blade being operable to block a part or all of light passing through an exposure aperture or to reduce light passing therethrough (Ikeda, Abstract, wherein shutter blade for a digital camera is provided with a plurality of shutter blades constituted so as to be moved back and forth between two positions being the position the position where an aperture part for exposure is closed and the position where it is opened);

an electromagnetic actuator (acutator) being operable to enable the blade to perform an opening motion according to opening energization and to enable the blade to perform a closing motion according to closing energization (Ikeda, Claim 1, Claim 2, and paragraph [0005], wherein an actuator functions to keep shutter blades in closed and opened states); and

a control means (control section which controls an actuator, Ikeda, paragraph [0004]) for drive-controlling the electromagnetic actuator and applying opening energization and closing energization to the electromagnetic actuator so as to allow the blade to perform an opening motion by turning on an electric power supply to move into an opened state in a photographable standby state in which a dynamic image and a still image can be photographed, and to perform an opening motion when an amount of light incident on the image pickup element becomes equal to or less than a predetermined level in the photographable standby state, and then to perform a closing motion for

Art Unit: 2622

completion of a photograph by a releasing operation (Ikeda, Abstract and paragraphs [0003], [0004], wherein when shutter blades move from the opened position to closed position because of vibration or impact in a photographing standby state, it is inherent that incident light on the image pickup element becomes equal to or less than a predetermined value).

Regarding **claim 7**, Ikeda discloses the blade is a shutter blade that opens and closes the aperture (Ikeda, Abstract, wherein shutter blades move back and forth).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4-5, 8-9 rejected under 35 U.S.C. 103(a) as being obvious over Ikeda (JP2001-183718 to Ikeda Noribumi).

Regarding **claims 4 and 8**, Ikeda fails to teach a diaphragm blade that stops down the aperture to a predetermined aperture diameter. **Official Notice is taken** that both the concepts and advantages of a diaphragm blade are well known and expected in the art. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to implement the diaphragm blade into the blade driving device as described by Ikeda to adjust aperture diameter because such implementation simplifies designs and yields fast aperture control for the blade driving device.

Regarding **claims 5 and 9**, Ikeda fails to teach an ND filter blade that reduces an amount of light passing through the aperture to a predetermined level. **Official Notice is taken** that both the concepts and advantages of an ND filter blade are well known and expected in the art. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to implement the ND filter blade into the blade driving device as described by Ikeda to reduce incident light because such implementation simplifies designs for the blade driving device.

Claims 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda (JP2001-183718 to Ikeda Noribumi) in view of Watanabe (U.S. Pat. 6,304,726).

Regarding **claim 10**, Ikeda discloses a blade driving device for use in cameras, the blade driving device comprising:

a mechanical blade openably and closably disposed in front of an image pickup element, the mechanical blade being operable to block a part or all of light passing through an exposure aperture or to reduce light passing therethrough (Ikeda, Abstract, wherein shutter blade for a digital camera is provided with a plurality of shutter blades constituted so as to be moved back and forth between two positions being the position the position where an aperture part for exposure is closed and the position where it is opened);

an electromagnetic actuator (acutator) being operable to enable the blade to perform an opening motion according to opening energization and to enable the blade to perform a closing motion according to closing energization (Ikeda, Claim 1, Claim 2,

and paragraph [0005], wherein an actuator functions to keep shutter blades in closed and opened states); and

a control means (control section which controls an actuator, Ikeda, paragraph [0004]) for drive-controlling the electromagnetic actuator and applying opening energization and closing energization to the electromagnetic actuator so as to allow the blade to perform an opening motion by turning on an electric power supply to move into an opened state in a photographable standby state in which a dynamic image and a still image can be photographed, and to perform an opening motion and then to perform a closing motion for completion of a photograph by a releasing operation.

However, Ikeda does not disclose

a signal exceeding a predetermined level is output from a shock sensor used to detect an impulsive force in the photographable standby state.

On the other hand, Watanabe discloses

a signal exceeding a predetermined level is output from a shock sensor used to detect an impulsive force in the photographable standby state (Watanabe, column 4 lines 22-30, wherein shock sensor 52 detects shocks applied to the camera).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the shock sensor as described by Watanabe into the blade driving device for use in cameras as described by Ikeda so that an opening motion is performed when the shock sensor produces a signal exceeding a predetermined level in the photographable standby state because such

incorporation generates useful information about a change in the environment of the camera, thus the camera is prepared for a better image capturing.

Regarding **claim 11**, Ikeda discloses the blade is a shutter blade that opens and closes the aperture (Ikeda, Abstract, wherein shutter blades move back and forth).

Regarding **claim 12**, Ikeda fails to teach a diaphragm blade that stops down the aperture to a predetermined aperture diameter. **Official Notice is taken** that both the concepts and advantages of a diaphragm blade are well known and expected in the art. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to implement the diaphragm blade into the blade driving device as described by Ikeda to adjust aperture diameter because such implementation simplifies designs and yields fast aperture control for the blade driving device.

Regarding **claim 13**, Ikeda fails to teach an ND filter blade that reduces an amount of light passing through the aperture to a predetermined level. **Official Notice is taken** that both the concepts and advantages of an ND filter blade are well known and expected in the art. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to implement the ND filter blade into the blade driving device as described by Ikeda to reduce incident light because such implementation simplifies designs for the blade driving device.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yaginuma et al (U.S. Pat. 6,547,457) discloses a camera shutter unit comprising a diaphragm blade, a shutter blade, and a driving-controlling mechanism.

Koyama et al (U.S. Pat. 4,119,986) discloses a control device of the shutter for a camera, which is equipped with shutter blades opening and closing an opening or the exposing operation.

Sangregory et al (U.S. Pat. 5,173,728) discloses a device for connecting a shutter blade to an electromagnetic camera shuttering system that utilizes an armature for producing a first magnetic field, and a stop to control the movement of a shutter blade.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TUAN H. LE whose telephone number is (571)270-1130. The examiner can normally be reached on M-Th 7:30-5:00 F 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David L. Ometz can be reached on (571) 272-7593. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2622

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tuan V Ho/
Primary Examiner, Art Unit 2622

/Tuan H Le/
Examiner, Art Unit 2622